

Ms Luisa Maguire
DA Coordinator/Key Site Assessment
Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

Email: luisa.maguire@planning.nsw.gov.au

4 April 2018

Our Ref: MIN2011/2/2

Dear Ms Maguire,

Modification request to amend the approval for the M2 Site, North Ryde Urban Activation Precinct (SSD5093MOD4)

I refer to your notification letter dated 19 March 2018 advising Council of the above application and inviting Council to comment on the proposed amendments sought by LANDCOM. The application is currently under consideration by the NSW Department of Planning and Environment (DPE) which seeks modifications to the State Significant Development approval to in summary:

- construct a temporary 'pre-assembly' shed for the fabrication of the approved pedestrian bridge over Delhi Road,
- allow 24 hour 7 days construction of the pre-assembly shed, the pedestrian bridge and works associated with delivery, installation and deconstruction of these items,
- remove an additional 17 trees, and
- Stratum subdivide the pedestrian bridge.

Council has reviewed the documentation submitted with the application and has identified several key areas of concerns such as significant noise implications, traffic impacts, stormwater management issues with the shed structure and removal of several trees particularly from Bundara Reserve containing *Sydney Turpentine Ironbark Forest* which is listed as an endangered ecological community under the *Biodiversity Conservation Act 2016*, and is located within the E2-Environmental Conservation Zone under the *Ryde Local Environmental Plan 2014* (LEP 2014).

These are discussed below for your consideration before making any determination of the modification application:

Impact on Bundara Reserve and tree removal

Council in its submission dated 30 October 2014 raised concerns that the original SSDA proposal did not adequately consider the potential impacts upon Bundara Reserve. The accompanying plans of the bridge and the structural report were also unclear to accurately determine if the piers would be located outside or inside the Bundara Reserve. It is noted from the modification plans that pier 2 would be located within the reserve which would require removal of trees from the reserve.

Council strongly objects to the proposed tree removal from Bundara Reserve for the reasons stated below.

1. Bundara Reserve is a very fine example of Sydney Turpentine Ironbark Forest, now listed as Critically Endangered under Biodiversity Conservation Act. It is a significant reserve in the regard of its diversity of native plant species and habitat but also highly regarded amongst members of the local community that have fought to protect it as a viable remnant for a long time. The site is listed as a 'community' which by definition includes all vegetation within the site from small grasses through to canopy coverage that when disturbed or modified, through removal can negatively impact the ability of the site to recover.
2. Under the LEP 2014 the land is Zoned E2 - Environmental Conservation Zone. It is also listed as being of 'high conservation value' in the City of Ryde Biodiversity Plan (2016) and adopted by Council aligning with Council's values to 'to assist management, enhancement and protection of our natural areas and biodiversity in the Ryde LGA' as held within Ryde Community Strategic Plan 2025.
3. Community volunteers have been protecting this remnant bushland since the 1990's and they continue to have a strong interest in the ongoing management and improvement of the reserve. In further supporting the integrity and value of this parcel, Council engages bush regeneration contractors to continue the restoration works begun by volunteers to further assist in retaining the value of this land.
4. Being a fairly small parcel of land with busy roads and increasing development nearby, any impacts on the reserve will further degrade the ecological value of the vegetation community both directly through removal and indirectly through further isolation and connectivity. Removal of trees results in removal of habitat for native birds and animals and may lead to further degradation. Small repeated impacts made on an ongoing basis cumulatively lead to much bigger impacts in the future and threaten the survival of these reserves.
5. It is Council's aim to regenerate, protect and preserve this significant bushland reserve to ensure that there is no further loss of this critically endangered ecological community. All works in and adjoining the reserve should aim to improve and promote biodiversity, not remove or negatively impact habitat. Council is aiming to protect the scientific, ecological and social values of the reserve to ensure its ongoing viability.
6. The trees identified within the Statement of Environmental Effects and Arborist reports are not considered dangerous and do not show any particular structural defects that would warrant their removal (as evidenced in the arborist report). The site was assessed through Council's Tree Management department to individually assess these species to provide this conclusion. Examples supporting the removal cited such as bird droppings and risk of bushfire as listed in the statement of environmental effects are not accepted by Council as sufficient reasons warranting their removal. Bird droppings are able to occur on any infrastructure adjoining natural areas and this does not justify impacting a critically endangered community. Recent Bushfire Land Mapping undertaken by Council and certified by the RFS has precluded the site from classification as bushfire prone land.
7. It is acknowledged that ongoing maintenance of trees, such as pruning of deadwood or reduction pruning is required from time to time and this can be actively managed by Council as with all other natural areas with infrastructure such as Council playgrounds, sportsfields and does not warrant removal to mitigate.

8. Council has commissioned Building Code & Bushfire Hazard Solutions and obtained a bush fire assessment report which concludes that bushfire impact is unlikely to occur and if it did it is expected that any direct flame impact will not generate elevated temperatures of sufficient duration so as to cause bridge steelwork to yield. A copy of this report is attached to this submission as **Attachment A**.
9. Council has commissioned Lesryk Environmental Pty Ltd (LEPL) to conduct a peer review of the Ecological Consistency Assessment report prepared by Biosis Pty Ltd (Biosis) in February 2018 and submitted with the application. LEPL has also reviewed the Arboreport 2017 prepared by Luke Davies dated 30 October 2017 and the originally submitted Ecological Impact Statement prepared by Ecological dated 22 May 2014. LEPL has found several inconsistencies in these documents in the number of trees to be removed and comparing these reports, the LEPL has found it difficult to determine exactly how much of this community is actually being affected. This is a matter of concern. A copy of this report is attached to this submission as **Attachment B**.

With further development there will be increased pressures on urban bushland, especially on such rare vegetation communities, support of this removal is in conflict with Council's obligations under the Biodiversity Conservation Act to ensure its protection for the future.

The proposed infrastructure works need to consider the importance of the reserve and provide improved access for pedestrians whilst protecting the key values of Bundara Reserve.

Other options should be explored in relation to the bridge design and alignment. There should be no net loss of biodiversity and no tree removals as a result of the construction of a pedestrian bridge.

Impact on stormwater management for the pre-assembly shed

The temporary shed presents a significant expanse of hardstand area (approximately 3,000m²) and will be functioning for approximately 1 – 2 years. In this case, it is considered that the structure's stormwater management system warrants an onsite detention system to be implemented.

The OSD design parameters should be based on Council's detailed design method, which requires stormwater runoff from the works to not exceed the maximum 5yr ARI discharge rate, for all storm events up to 100yr ARI. Given the temporary nature of the project, this could potentially be achieved with 3 above ground tanks in the region of 20,000L storage each, configured as an OSD system at the northern end of the building footprint.

It is Council's request that the following condition of consent be imposed in the event that the application is considered for approval:

- The stormwater management system for the temporary shed must incorporate an on-site detention system (OSD) to ensure that the stormwater runoff from the works to not exceed the maximum 5yr ARI discharge rate, for all storm events up to 100yr ARI discharge rate. In this case the OSD system may be configured with the installation of above ground tanks to for a storage capacity of 60,000L storage.

24hour/7 day Construction hours

Delhi Road is a major State Road servicing approximately 50,000 vehicles per day. Council does not support the extension of the construction hours as operations requiring use of the road reserve along Delhi Road and the M2 will cause major disruptions to the traffic network.

It is understood that RMS will be the authority on providing approval as this is a state road. Therefore, Council requests that the matter be reviewed by RMS and a concurrence obtained. A staging and construction plan should also be provided for a review and approval by RMS. A copy of staging and construction plan should be submitted to Council which should include sufficient information to address community concerns.

The Construction Noise and Vibration Assessment report prepared for Landcom by SLR Consulting Australia Pty Ltd and submitted with the modification application states that potentially significant impacts from night-time works are predicted at the surrounding residential receivers when noise intensive equipment such as chain saws, wood chippers and concrete saws are used.

Whilst the report suggests certain mitigation measures, it recommends scheduling the works to be undertaken during the standard daytime construction hours. In view of this, Council strongly objects to the change in the approved construction hours as this would be inconsistent with the recommendations of the Construction Noise and Vibration Assessment.

It is noted that the Construction Noise and Vibration Assessment also recommends that where maintaining the standard daytime construction hours is not possible, it should be scheduled to finish by 11:00pm. The *Interim Construction Noise Guideline (DECC 2009)* published by the NSW EPA allows construction works outside standard hours in the following circumstances:

- the delivery of oversized plant or structures that police or other authorities determine require special arrangements to transport along public roads;
- emergency work to avoid the loss of life or damage to property, or to prevent environmental harm;
- maintenance and repair of public infrastructure where disruption to essential services and/or considerations of worker safety do not allow work within standard hours;
- public infrastructure works that shorten the length of the project and are supported by the affected community;
- works where a proponent demonstrates and justifies a need to operate outside the recommended standard hours.

The Guideline also states that where construction works are planned to extend over more than two consecutive nights, that the potential for sleep disturbance at nearby residences should be considered.

Notwithstanding the above, Council does not support the proposed extension to the construction hours due to potential major disruptions to the traffic network and night time noise impacts on surrounding residents.

However, in the event that the DPE is minded to grant consent to the proposed modification application Council suggests further community consultation be undertaken in order to gain support from the affected residents.

Council also suggests the following conditions to be included with any consent granted:

1. The use of noisy equipment such as chain saws, wood chippers and concrete saws shall be restricted to daytime hours where practicable. Where this is not practicable, the use of this equipment shall be scheduled between 7.00pm and 11.00pm on Mondays to Thursdays.

2. All potentially affected residents shall be notified of the any proposed night works at least 48 hours before they are carried out.
3. A manned 24 hour telephone contact line shall be provided for affected residents to report noise problems.
4. A noise logger must be installed to continuously monitor the noise level at the boundary of nearest affected residential premises.
5. Where complaints are received the principal contractor shall:
 - (a) review the situation;
 - (b) seek advice from an acoustical consultant if necessary;
 - (c) implement any additional noise control measures that are feasible and reasonable; and
 - (d) inform the complainant of the outcome.
6. A register must be kept of any complaints including:
 - (a) date and time of complaint;
 - (b) complainant's name and contact details;
 - (c) particulars of complaint; and
 - (d) action taken.

Thank you for advising Council of the proposed changes and providing Council with the opportunity to make a submission noting that an insufficient notification period was provided and for an effective community consultation process Council's request for extension of time was denied.

Should you have any questions about the submission please contact me on 9952 8190 or via email lcoad@ryde.nsw.gov.au.

Yours sincerely,



Liz Coad
Acting Director City Planning and Development

Attachments:

- A. Comment by Building Code & Bushfire Hazard Solutions Pty Ltd
- B. Peer Review of Ecological Consistency Assessment Report - Lesryk Environmental Pty Ltd



Building Code & Bushfire Hazard Solutions

(Pty. Limited) ABN 19 057 337 774
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Telephone: (02) 9457 6530 Facsimile: (02) 9457 6532
www.bushfirehazardsolutions.com.au



City of Ryde Council
1 Pope Street
Ryde NSW 2112

30th March 2018
Our Ref. 180912
Your Ref: VG/DM

Attn: Mr. Vince Galletto
(Act/ Manager Assessment)

Cc: Ms. Myra Malek
(Senior Coordinator Technical Support)

**Re: LACHLAN'S LINE PEDESTRIAN BRIDGE - DELI ROAD / M2 MOTORWAY NORTH RYDE
NORTH RYDE STATION URBAN ACTIVATION PRECINCT 75W PROPOSAL
BUSHFIRE ASSESSMENT COMMENT**

Building Code and Bushfire Hazard Solutions P/L has been commissioned by the City of Ryde to provide an urgent review of documents relating to the proposed Lachlan's Line pedestrian bridge in relation to possible bushfire impact.

Background:

The purpose of this comment is to briefly outline the bushfire assessment process and to provide comment on the proposed width of the 5.0m management zone as required by the bridge engineers and the general management of the bushland vegetation associated with Pier's 2 and 3 of the subject bridge.

Due to the urgency of this comment a site inspection was not undertaken therefore reliance is made on the documents provided by Council and digital imagery.

It was noted that of the documents provided there was no formal bushfire hazard assessment report only a mention of possible bushfire impact by the bridge engineers having regard to mitigating thermal impact.

Assessment:

Properties considered to be affected by possible bushfire impact are determined from the local Bushfire Prone Land Map as prepared by Council's and / or the NSW Rural Fire Service. All property development within affected areas is subject to the conditions detailed in the document '*Planning for Bush Fire Protection 2006*' (PBP).

Bushfire prone areas are defined as those areas;

- Containing or being within 100 metres of designated Category 1 Vegetation; or
- Containing or being within 30 metres of designated Category 2 Vegetation.

In this instance the subject land sites (Pier 2 and Pier 3) are not identified as being '*bushfire prone*' on a City of Ryde 'Bushfire Prone Lands Map' as certified by the Commissioner of the NSW Rural Fire Service. Therefore the application of '*Planning for Bush Fire Protection – 2006*' and '*Australian Standard 3959 – 2009*' is not formally triggered under section 100B of the *Rural Fires Act 1997* or section 4.14 of the '*Environmental Planning and Assessment Act – 1979*'.

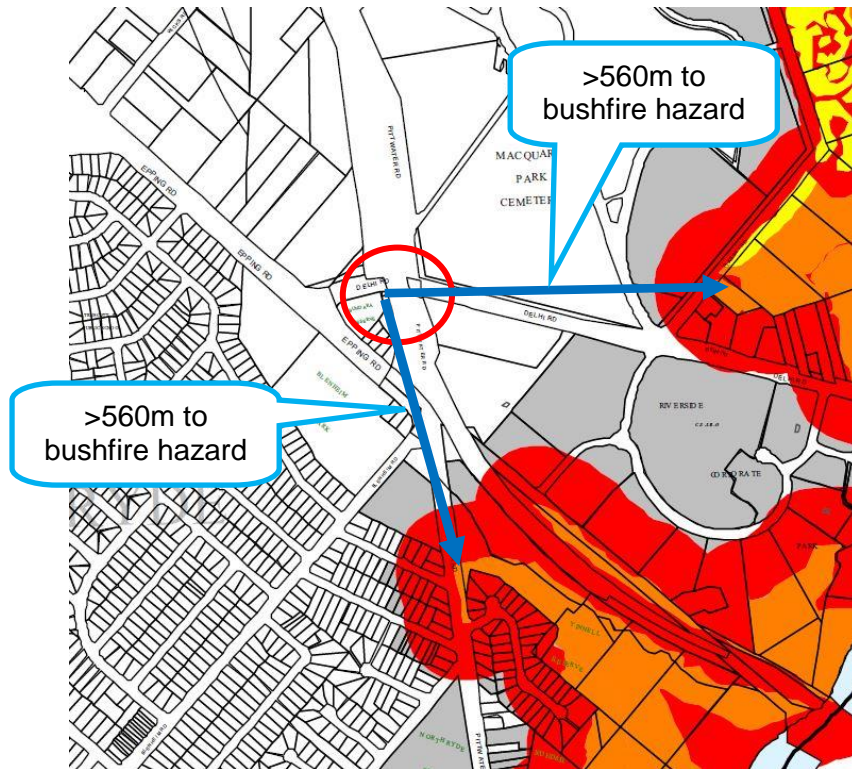


Image 01 – Extract from the City of Ryde's Bushfire Prone Lands Map
Noting that the subject Piers are not deemed as being bushfire prone.

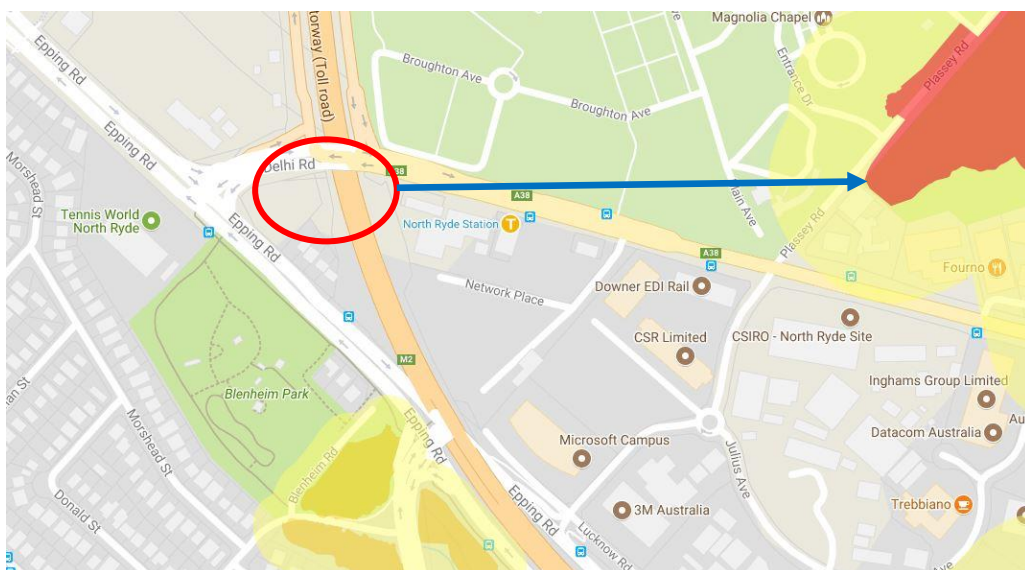


Image 02 – Extract from NSW Government Portal's Bushfire Prone Land map
noting that the subject Piers are not deemed as being prone to bushfire impact.

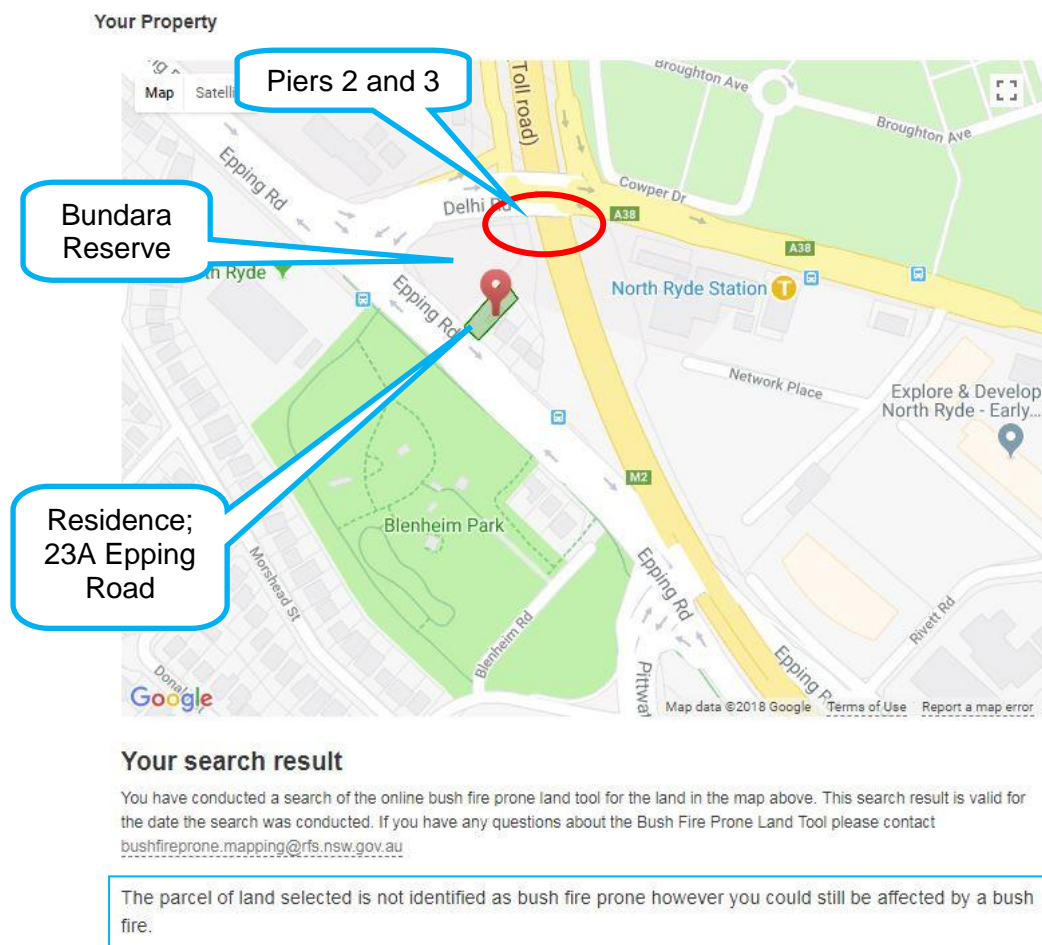


Image 03 – NSW Rural Fire Services public use bushfire prone land map.

It is noted that the residence adjacent Bundara Reserve is not considered as being bushfire prone even though the Reserve is adjacent its northwest boundary.

Where the subject bridge Piers (Two and Three) were to be located on land which was deemed bushfire prone, Planning for Bushfire Protection – 2006 does not address this type of elevated structure therefore no formal Asset Protection Zone or its depth can be determined.

Regardless, the bridge engineers have determined that there is a concern about possible thermal impact from bushfire. There is no data to review in regard minimum or maximum temperatures which the bridge steel work can satisfactorily absorb over a period of time. Typically carbon steel will begin to lose strength at a temperatures above 300deg C and reduces in strength at a steady rate up to approximately 800deg C. The ultimate steel failure time may be variable after this point is reached dependent upon loading and other factors.

What is not clear is the amount of time required at such elevated temperatures for yielding to occur.

Bundara Reserve is small in area (approximately 5,000m²) and a bushfire developing and travelling from the west around the intersection of Deli and Epping Roads would not be expected to attain the high elevated temperatures levels on a continuous basis for any significant length of time to allow structural damage to occur.

The short fire run length of approximately 84m is unlikely to allow for crown fire development.

In terms of available vegetation it can be classified as 'remnant' forest consisting of some Sydney turpentine-ironbark and other gum trees and scattered scrub layer species some of which appear to be non-native and weed growth.

In the unlikely event that bushfire flame fingers do impact the bridge steel work, the elevated temperatures are likely to be in the order of 1000 deg C. Importantly however this temperature can only be maintained for several seconds (burnout period) whilst the available vegetative fuels such as the tree crowns are consumed.

There can be no continuous flame contact over lengthy periods (5 or more minutes) and it is therefore assumed that the bridge steel work would be capable of dissipating direct and radiant heat well ahead of reaching a structural failure point.

Reserve Management:

Bundara Reserve is managed by the City of Ryde Council and is listed in the Willoughby / Ryde Councils Bush Fire Risk Management Plan - 2010 as a Land Management Zone (LMZ) and is listed as item 61. Whilst being rated as a Very High risk in this plan the priority rating is only 2A.

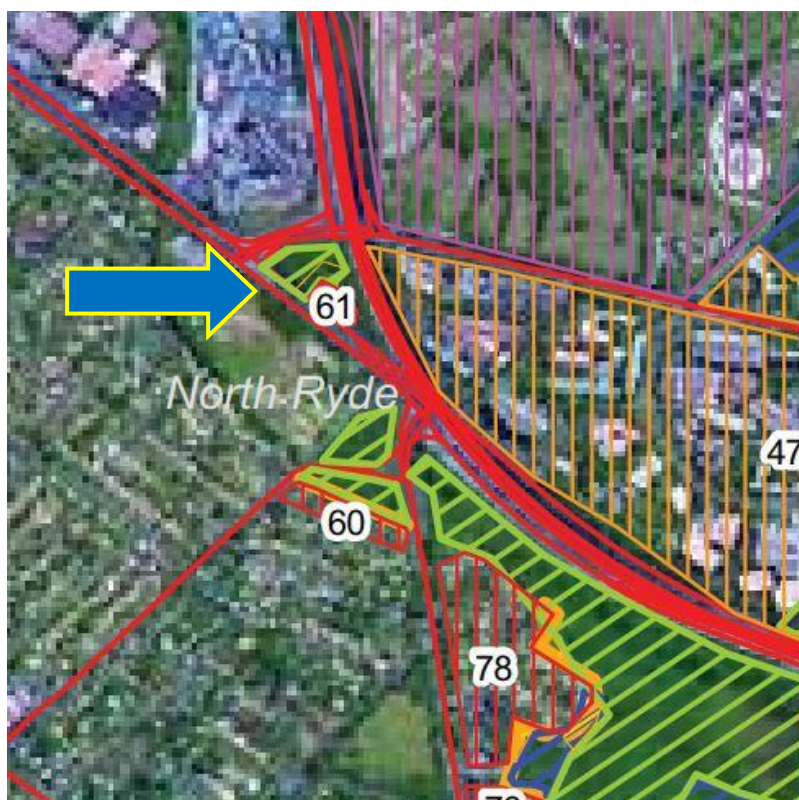


Image 04 – Extract from Willoughby / Ryde Councils Bushfire Risk Management Plan – 2010
Noting are 61 as being Bundara Reserve

The treatment of the Reserve under this plan is currently consists of:

Treatment number:

T48 – Preparedness – APZ - Annual maintenance roster by LGA.

T51 - Community Education – Letterbox drops to residents by LGA

T88 - Hazard Reduction – LMZ – Bundara Reserve (this may be carried out by Fire Rescue NSW)

It can therefore be assumed that the land is managed by the City of Ryde Council by various means including utilising bushland regeneration methods.

The following image indicates that there are several open spaces at ground level throughout the Reserve suggesting limit low level vegetation. Indeed when viewed from Deli Road or Epping Road a person can see through the forest suggesting very limited scrub and intermediate vegetation layers.

This type of vegetation management may be in concert with STIF management practices.

Pier 3 Land

There is no vegetation management plan available for review for the Pier 3 location.

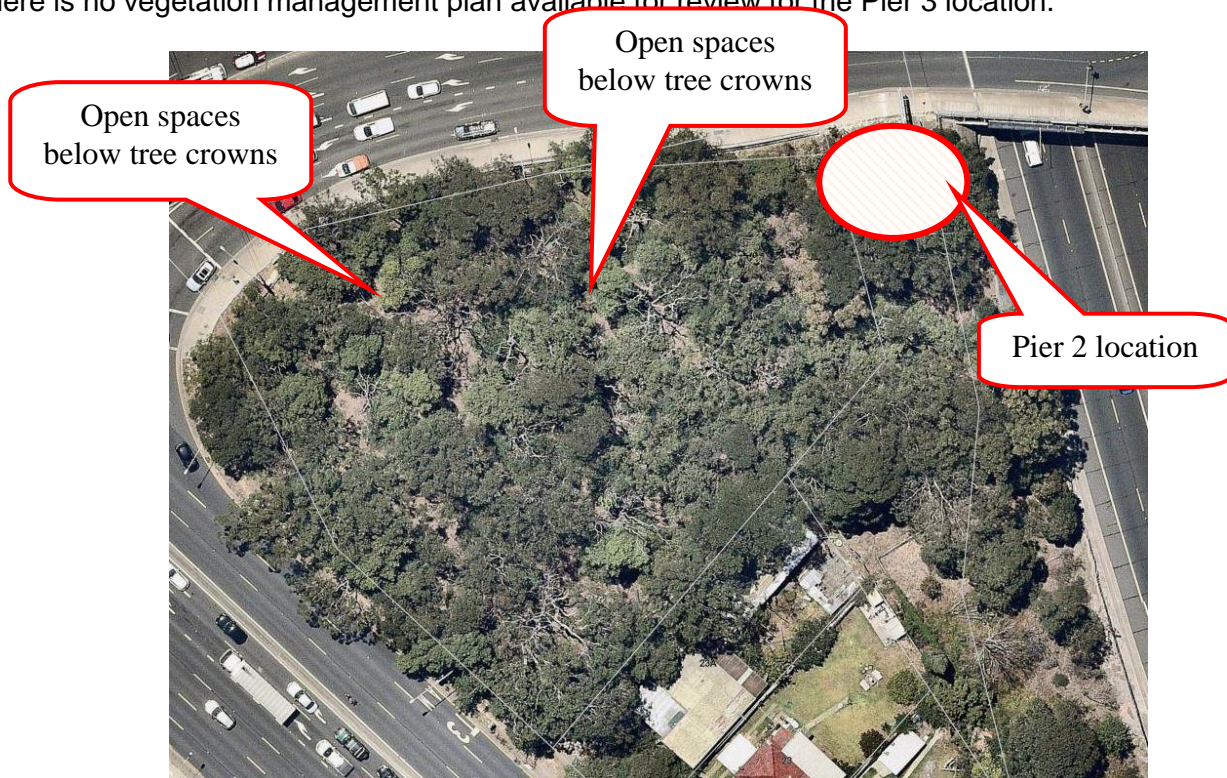


Image 03 – Aerial view of Bundara Reserve noting open space below tree crown level

Access for firefighting services is very good along both Deli and Epping Roads should the need arise.

Adequate reticulated water supplies are available via street fire hydrants in Deli and Epping Roads.



Image 04 – Fire hydrant locations as indicated.

The vegetation on the eastern side of the M2 is considered to be insufficient to generate any significant impact to Pier 3. Indeed this land is not deemed bushfire prone by any authority including the Willoughby / Ryde Council's Bushfire Risk Management Plan.

Conclusion:**a) Pier 2**

Bundara Reserve is not referenced as being bushfire prone in the City of Ryde Council's Bushfire Prone Lands Map. Nor is it listed as being bushfire prone on the NSW Rural Fire Services self-help web page or the NSW Government Portals mapping system.

No bushfire assessment report was undertaken during the development review process to our knowledge possibly based on the fact that the land is not deemed bushfire prone.

Bundara Reserve is however listed as item 61 in the Willoughby / Ryde Council's Bushfire Risk Management Plan and as such is managed by Ryde Council.

Bushfire impact is unlikely to occur and if it did it is expected that any direct flame impact will not generate elevated temperatures of sufficient duration so as to cause bridge steel work to yield. Additionally for this type of impact to occur, weather conditions must include south west winds of at least 45kph, a dry vegetative state, elevated ambient temperatures and low humidity levels.

Bushfire progression from the west or south is not considered sufficient to generate impact conditions sufficient to cause structural yield or failure.

Smoke and ember attack is likely.

b) Pier 3

The bushland associated with Pier 3 is similarly not listed as bushfire prone and is significantly less in area than Bundara Reserve. Any possible bushfire impact to Pier 3 is not considered to be such that structural damage would occur to the proposed pedestrian bridge due to bushfire generated elevated temperatures.

Likely impact is expected to be smoke and ember attack.

c) Bridge engineering requirement

The requirement for a 5.0m thermal barrier against bushfire around Piers 2 and 3 for the purposes of ensuring structural stability in my opinion cannot be justified based on the limited vegetation available, the on-going management of the Bundara Reserve and the type of bushfire behaviour required to generate excessive temperatures for an extended period.

That is, extreme ambient weather conditions combined with an extended period of direct impact time at maximum temperatures at bridge level.

Should you have any further questions please do not hesitate in contacting me directly.

Kind regards;

Building Code & Bushfire Hazard Solutions P/L



David McMonnies, AFSM. / M I Fire E
Masters of Construction Mgt. / G. D. Design in Bushfire Prone Areas.
Managing Director,
Fire Protection Association of Australia BPAD – Level 3 Certified Practitioner
Certification number – BPAD 2354
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Disclaimer:

Quote from Planning for Bush Fire Protection 2006, 'Any representation, statement opinion, or advice expressed or implied in this publication is made in good faith on the basis that the State of New South Wales, the NSW Rural Fire Service, its agents and employees are not liable (whether by reason of negligence, lack of care or otherwise) to any person for any damage or loss whatsoever which has occurred or may occur in relation to that person taking or not taking (as the case may be) action in respect of any representation, statement or advice referred to above..'

Similarly the interpretations and opinions provided by Building Code and Bushfire Hazard Solutions in regard to bushfire protection are also given in the same good faith.

Mr Greg Tesoriero
Creative Planning Solutions
Suite 206, 1 Erskineville Road
Newtown NSW 2042



3 April 2018

Dear Greg,

Peer Review of the Biosis Pty Ltd ecological consistency assessment, Lachlan's line pedestrian bridge

Lesryk Environmental Pty Ltd has been engaged to conduct a peer review of the Ecological Consistency Assessment report prepared for Landcom by Biosis Pty Ltd (Biosis) in February 2018.

The Ecological Consistency Assessment report was prepared to assess components of the construction, and on-going performance of, the Lachlan's Line pedestrian bridge and its ecological impact on the area's species, fauna habitats and vegetation communities. Biosis identified the vegetation present as Sydney Turpentine-Ironbark Forest, this being listed as an endangered ecological community under Part 3, Schedule 1 of the NSW *Threatened Species Conservation Act 1995* (TSC Act).

The TSC Act was repealed in August 2017 and has been replaced by the NSW *Biodiversity Conservation Act 2016* (BC Act).

Under Part 2, Schedule 2 of the BC Act, Sydney Turpentine-Ironbark Forest is listed as an endangered ecological community.

Biosis acknowledges the repeal of the TSC Act, but as components of State Significant Development (SSD) 5093 were initially assessed in accordance with the TSC Act, (though not documented by Biosis in their report), in accordance with the NSW Biodiversity Conservation (Savings and Transitional) Regulation 2017, reference to this legislation remains current.

Sydney Turpentine-Ironbark Forest is equivalent to the Federally listed Turpentine-Ironbark Forest of the Sydney Basin Bioregion. This vegetation community is listed as Critically Endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Biosis notes that the stands of Sydney Turpentine-Ironbark Forest that are to be affected do not meet the requirements of the Commonwealth listing of Turpentine-Ironbark Forest of the Sydney Basin Bioregion given their isolated nature and that the total patch size is less than the required one hectare. Lesryk would agree with this statement.

The aspects of the construction and maintenance of the Lachlan's Line pedestrian bridge considered and assessed by Biosis, including measures to permit its on-going maintenance and operation, was stated as resulting in the removal of 250 square metres of Sydney Turpentine-Ironbark Forest habitat, this including 28 semi-mature to mature trees.

The 250 square metres of disturbance appears to have come from the arboricultural impact statement prepared for the pedestrian bridge (Arboreport 2017), Biosis adopting this figure.

Lesryk Environmental Pty Ltd
PO Box 3001
Bundeena NSW 2230

The Tree Location Plans provided in the arborist report do not have a scale (pages 21 onwards) (Attachment 1). Figure 1 (Attachment 1) of the Biosis report does have a scale but the extent of vegetation disturbance does not appear consistent with that identified in the arborist report. It is unclear if the extent of disturbance identified in the arborist report includes the area previously assessed by Ecological. If the area assessed by Ecological is included in the area of disturbance determined by the arborist report, it would mean the figure supplied to Biosis and drawn on in their Biobanking Credit Calculations would be incorrect. Without a consistent figure showing the limits of impact (both direct and indirect) it is difficult to calculate the exact extent (square meterage) of vegetation disturbance (due to both direct and indirect impacts).

Reference to the Tree Survey Table provided on pages 14 and 15 of the Arboreport (2017) report suggests that 33 trees that occur within the alignment of the pedestrian bridge, and 10 that are within the fall zone, will be cleared.

It is assumed that the inconsistency in the number of trees that are being affected (and therefore assessed) relates to the fact that portions of the pedestrian bridge were previously considered and assessed by Ecological Australia Pty Ltd (Ecological) in 2014. In regards to this matter, on page 35 of their 2014b report Ecological states 'Minor trimming for the construction of the bridge spanning Epping Road will result in the disturbance to 0.02 ha [200 square metres] of Sydney Turpentine-Ironbark Forest'. In conducting their assessment, Ecological notes 'as a precautionary approach, this has been included as clearing'. Ecological continues on the same page 'In reality, the trimming is unlikely to result in the clearance of trees.'

The 250 square metres of Sydney Turpentine-Ironbark Forest assessed by Biosis, combined with that assessed at the same location by Ecological, is stated as equating to 450 square metres of this community being removed or disturbed. Comparing the Biosis, Ecological and arborist (Arboreport) reports, it is difficult to determine exactly how much of this community is actually being affected. Though unlikely to result in a significant impact or revision of the assessment conclusion, regardless of its previous consideration, the 7 part test conducted on the proposal (i.e. the Lachlan's Line pedestrian bridge and its impact on the state listed Sydney Turpentine-Ironbark Forest) should have prepared considering, at a minimum, the removal of 450 square metres of this community.

This figure is considered to be a minimum value with edge effects such as movement of vehicles, personnel and machinery, light penetration, weed spread and changes to moisture content along [and into] the newly created forest edge likely to affect this community further. A precautionary approach when conducting the assessment, based on a worst case scenario, should have considered a larger amount of vegetation disturbance. This may affect the outcome and commercial value of the recommended off-set contributions.

As part of their assessment two ecologists from Biosis conducted site inspections in August 2016 and November 2017, these totalling a survey effort of two person hours. No species specific techniques were employed during these site inspections, the random meander method being the only method used. Presumably this was employed to determine the structure of the fauna habitats and vegetation communities present, along with the assemblage of dominant plants. A list of species recorded during the course of the field investigations is not provided, though some dominant plants are listed on page 5 under the heading 'threatened ecological communities'. Biosis also recorded the presence of two priority weeds during their inspection. On page 6, within Table 1, the comment is made 'the [threatened] species was not recorded during field investigations' so presumably targeted (threatened) plant surveys were also conducted.

The Arboreport (2017) report was prepared in October 2017. Reference to the Tree Survey Table notes that Tree 29 (a eucalypt) and Tree 149 (a turpentine¹) have 'major deadwood to 100mm diameter'. Other trees were also listed as exhibiting deadwood to varying degrees.

¹It is acknowledged that turpentines are generally not known to produce tree hollows (authors field notes).

On page 11 of the arborist report the following statement is made under Point 4.3 Other Tree Comment 'dead trees were found on site during the inspection. These trees should be considered for immediate removal irrespective of the proposed development application'.

Ecological in their ecological survey of the area recorded several hollow-dependent 'common to abundant' native species, including the Common Brushtailed-possum (*Trichosurus vulpecula*), Common Ringtailed-possum (*Pseudocheirus peregrinus*), Gould's wattled Bat (*Chalinolobus gouldii*) and Southern Forest Bat (*Vespadelus regulus*). The two possums are urban tolerant animals and can negotiate some urban infrastructure while, the microbats can easily traverse urban areas by flying. There is the potential for one or more of these species to occupy Bundara Reserve.

Biosis makes the statement in Table 2 'no tree hollows suitable for threatened bats, the Powerful Owl or Gang-gang Cockatoo were recorded within the study area'. This statement appears inconsistent with the Arborist report. Biosis defines the study area they assessed on Page 3 of their document as: 'the study area for the current assessment consists of the vegetation to be impacted on either side of the M2 motorway, with some potential vegetation removal on the edge of Bundarra Reserve immediately west of the impact area on the western side of the motorway.

Presumably this would include those trees that are dead or bear deadwood identified by the arborist in October 2017.

A brief site inspection was conducted as part of this peer review. This inspection was undertaken from 8.00 am to 8.30 am on April 2 by Mr Deryk Engel (B.Env.Sc Hons). The objective of the site investigation was to determine the condition, structure and extent of those vegetation communities and fauna habitats present. During the site inspection no detailed flora and fauna surveys were undertaken.

The site inspection noted that both the area adjacent to Bundara Reserve, and the reserve itself, appears to be in the process of rehabilitation (Attachment 2). Weed removal appears to have occurred and native shrubs and seedlings are naturally regenerating. Weeds and urban refuse is present along the reserve margins, but appears to be managed in the reserve itself. The reserve itself does not appear to be significantly modified or altered by urban development.

This view is supported by comments made by Ecological that note 'the Sydney Turpentine Ironbark Forest 'was in good condition in that it comprised of an intact canopy, mid-storey and ground-storey layers, and was dominated by native species. It contained habitat features such as stags, fallen logs, and a deep leaf litter' (Ecological 2014b page 25).

In regards to the presence of hollow-bearing trees, south/south-west of the area proposed to be disturbed by Pier 2, one mature tree with a vertical broken branch (that could potentially be hollow bearing) was observed. Another dead stag that also may be hollow-bearing was also observed at this location. It is unlikely that the mature tree will be cleared. The dead stag may require removal as it's close to the pedestrian bridge fall zone.

In their assessment report Ecological notes that the East Coast Freetail Bat (*Mormopterus norfolkensis*) was recorded in the locality. This microchiropteran is hollow-dependent and listed under the BC Act (and repealed TSC Act).

As hollow-bearing trees are present in the vicinity of Pier 2, and as insect attracting plants (foraging habitat for insectivorous bats [microbats]) will be removed, as no targeted microchiropteran surveys were conducted, a precautionary approach should have been adopted in regards to the presence of the East Coast Freetail Bat and other potentially occurring hollow-dependent threatened species. Assessments drawing on the criteria provided under Part 1, Section 5A of the NSW *Environmental Planning and Assessment Act 1979* (these commonly referred to as the 7 part test) should have been undertaken.

It is acknowledged that, given the extent of vegetation being removed compared to that which would be retained, and the possible retention of hollow (or potentially) hollow-bearing trees, that the 7 part test would conclude that a significant impact would not arise on the local viability of the East Coast Freetail Bat population. Whilst this is the case, mitigation measures such as the erection of compensatory habitat and the management of weed species may have been presented.

As part of their assessment, Biosis conducted a review of known databases, being the Office of Environment and Heritage (OEH) Atlas of NSW Wildlife [BioNet] and Department of Environment and Energy Protected Matters Search Tool, as well as relevant ecological reports prepared as part of SSD 5093. These reports were the:

- Preliminary Assessment of the Ecological Values of the M2 and Bundara Reserve Sites of the North prepared November 2010 (Ecological 2010)
- Ryde Station Precinct - Part 3A and SSS Application
- North Ryde Station Precinct, M2 Site, State Significant Development, Ecological Impact Assessment prepared May 2014 (Ecological 2014a)
- North Ryde Station Precinct, M2 Site, State Significant Development, Ecological Impact Assessment prepared October 2014 (Ecological 2014b).

Each of these documents, and the Arboreport (2017) arborist report, were also reviewed as part of this peer review.

Biosis used the above databases and reports to generate a list of species that could potentially be present within, or in the vicinity of, the alignment of the Lachlan's Line pedestrian bridge. The impact of the proposal on these animals and plants, and the Sydney Turpentine-Ironbark Forest endangered ecological community, was considered and/or assessed (with reference to the 7 part test) by Biosis.

In conducting the assessment on Sydney Turpentine-Ironbark Forest, Biosis notes that the proposal constitutes, or is part of, or will result in the following relevant Key Threatening Process: Clearing of native vegetation. On page 32 of their May 2014 Ecological report notes several other applicable Key Threatening Processes.

With reference to Schedule 3: Key Threatening Processes (KTP) of the TSC Act the following would be relevant to assessments conducted on Sydney Turpentine-Ironbark Forest

- Forest eucalypt dieback associated with over-abundant psyllids and Bell Miners
- Infection of native plants by *Phytophthora cinnamomi*
- Introduction and establishment of Exotic Rust Fungi of the order Pucciniales pathogenic on plants of the family Myrtaceae
- Invasion and establishment of exotic vines and scramblers
- Invasion, establishment and spread of Lantana (*Lantana camara* L. sens. lat)²
- Invasion of native plant communities by exotic perennial grasses³
- Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants
- Loss of hollow-bearing trees
- Removal of dead wood and dead trees.

Reference to these KTP will not alter the outcomes of the 7 part test conducted, but may trigger the adoption of applicable mitigation measures (e.g. vehicle washing, weed removal, weed and vegetation monitoring) to ensure that the adjacent Bundara Reserve is not impacted by the establishment of the pedestrian bridge. Biosis recommended the preparation of a Vegetation Management Plan and measures to counter these KTP's should be included in that document.

² Lantana was observed within the vicinity of Piers 2 and 3 during the brief April 2018 inspection.

³ Exotic grasses and garden escapees were also observed within the vicinity of Piers 2 and 3 during the brief April 2018 inspection.

Biosis did not recommend the clear delineation of those vegetated areas that not to be disturbed during the course of the project through the erection of temporary fencing.

The threatened fauna considered and addressed by Biosis is different to the list produced by Ecological (on page 27 of their 2014a, and page 32 of their 2014b, publications). Absent from the list prepared and assessed by Biosis are the:

- Little Lorikeet (*Glossopsitta pusilla*) and Red-crowned Toadlet (*Pseudophryne australis*) (both of which are listed under the BC Act [TSC Act])
- the Fork-tailed Swift (*Apus pacificus*) White-throated Needletail (*Hirundapus caudacutus*) (both migratory birds listed under the EPBC Act).

Given the habitats observed within the alignment of the Lachlan's Line pedestrian bridge, during the April 2018 inspection, the Red-crowned Toadlet would not be present though the birds may forage within or over this area on occasion.

Biosis also notes 'various microbat species' as being present or potentially occurring on a transient basis, whilst Ecological list these being the:

- Large-eared Pied Bat (*Chalinolobus dwyeri*) (a cave-dependent species)
- Little Bentwing-bat (*Miniopterus australis*) (cave-dependent species)
- Eastern Bentwing-bat (*Miniopterus schreibersii oceanensis*) (cave-dependent species)
- East Coast Free-tail Bat (*Mormopterus norfolkensis*) (hollow-dependent species)
- Yellow-bellied Sheath-tail-bat (*Saccolaimus flaviventris*) (hollow-dependent species).

Cave-dependent species may forage on those insects attracted to the flowering native species but would not be roosting within or close to the alignment of the pedestrian bridge. The hollow-dependent species may be roosting and foraging within this area.

In the absence of not conducting targeted field surveys, Biosis should have referred to, and drawn upon, the Ecological findings. A precautionary approach should have been adopted in those instances where habitat is observed for listed species.

The mapped extent of Sydney Turpentine-Ironbark Forest present (i.e. that present within a portion of Bundarra Reserve) is estimated to cover an area of approximately 6400 square metres (OEH 2013) (Attachment 3). Based on the limited observation made during the April 2018 inspection, this noting the presence of native canopy trees, Sydney Turpentine-Ironbark Forest is also considered to be present between, and extend south of, those houses that front Epping Road, and the M2 Motorway (area mapped as weeds and exotics, Attachment 3⁴).

Reference to the arboricultural impact statement notes that several Turpentines (*Syncarpia glomulifera*) (trees T150, T149), White Mahogany (*Eucalyptus acmenoides*) (trees T152, T156) and Blueberry Ash (*Elaeocarpus reticulatus*) (T147, T148) are present in the vegetation to the east of the M2 Motorway that is to be removed / disturbed. In the vicinity of Pier 1, Turpentines are present (T2, T10 and T11) and will also be removed. Reference to the final determination to list Sydney Turpentine-Ironbark Forest as an Endangered Ecological Community notes that these plants are listed in the assemblage of species that are characteristic of this community.

Though not mapped, in preparing their assessment, Biosis incorporates the area to the east of the M2 in their mapping / consideration of the distribution (and impact on) Sydney Turpentine-Ironbark Forest (Attachment 1). Inclusion of this area, and the area to the rear of those houses present, increases the area of Sydney Turpentine-Ironbark Forest present in the locality to around 9000 square metres.

⁴ Should ground truthing be undertaken it is expected that this vegetation has been incorrectly mapped and is a degraded form of Sydney Turpentine-Ironbark Forest.

The April 2018 site investigation did note the presence of street signage to the south of Delhi Road, within the alignment of the pedestrian bridge. Presumably this will have to be relocated, though no mention of this is made in any of the ecological reports. To permit drivers sufficient warning, its highly likely the sign will be relocated further east along Delhi Road. This may require the removal of additional vegetation from the Sydney Turpentine-Ironbark Forest community.

Other services, such as street lighting, may also require relocation and may require the clearing of native vegetation.

These additional impacts are not addressed in the Biosis report.

Shortcomings identified with the Biosis report

In summary, the following shortcomings with the Biosis ecological consistency assessment were identified.

- 1) A list of those plants and animals recorded during their site investigation is not provided. Ecological does list those species they recorded.
- 2) Impacts of the works on any 'common to abundant' native species present are not given (e.g. removal of foraging resources and any potential sheltering sites)
- 3) A precautionary approach should have been adopted:
 - a. As hollow-bearing trees are present
 - b. As at least one threatened microbat has been recorded in the locality, a 7 part test should have been conducted on this group of animals
- 4) For consistency with the Ecological reports, consideration should have been given to the impact of the proposal on Little Lorikeet and migratory birds.
 - a. As flowering eucalypts and other native plants, and insect attracting species, will be removed, foraging habitat for these birds will be cleared.
 - b. Alternatively, why these species were not considered should have been discussed in the body of the report (e.g. within Table 2 of the Biosis document).
- 5) Improved mapping should be prepared to determine the extent of Sydney Turpentine-Ironbark Forest that is to be disturbed
 - a. following this a review of the 7 part test prepared on the Sydney Turpentine-Ironbark Forest should be undertaken, a worst case scenario being adopted when determining the offset calculations
 - b. a recalculation of any offset contributions should be made based on the increased amount of Sydney Turpentine-Ironbark Forest being cleared (if applicable)
 - c. impacts associated with the relocation of existing signage and services (should these be necessary) should be included in the assessment.
- 6) Mapping should identify the location of any hollow-bearing and dead trees
 - a. If hollow-bearing and/or dead trees (that are hollow-bearing) are to be removed offsetting of these with species specific habitat boxes should be recommended.
- 7) The list of recommendations presented should be increased to address the management/mitigation of potential KTP's
 - a. A recommendation to delineate clearing limits should have also been made.

Concluding observation

The Biosis assessment of, and conclusions on, the impacts of the Lachlan's Line pedestrian bridge on Sydney Turpentine-Ironbark Forest and those threatened species recorded or expected to occur in the study locality is supported. A percentage of the overall vegetation present is being removed, and this is proposed to be offset through financial contributions and/or other means. Should Lesryk Environmental Pty Ltd have been engaged to conduct this ecological investigation, our findings would have mirrored those of Biosis, though, amongst other matters, we would have clearly defined the area of disturbance and included a number of additional recommendations to mitigate against identified or likely impacts.

Confirming the exact area of Sydney Turpentine-Ironbark Forest that is to be directly or indirectly impacted is likely to result in a revision of the number of ecosystem credits required to off-set the impact.

If you require any further information on this matter please contact the under signed on either (02) 9523 2016 or (0408) 25 8129.

Yours sincerely,



Deryk Engel
Director
Lesryk Environmental Pty Ltd
20 Woodfield Avenue, Bundeena NSW 2230

Reference:

Arboreport 2017, *Lachlan's Line, Pedestrian Bridge, Delhi Road, North Ryde Arboricultural Impact*. Prepared for Landcom. Dated 30 October 2017.

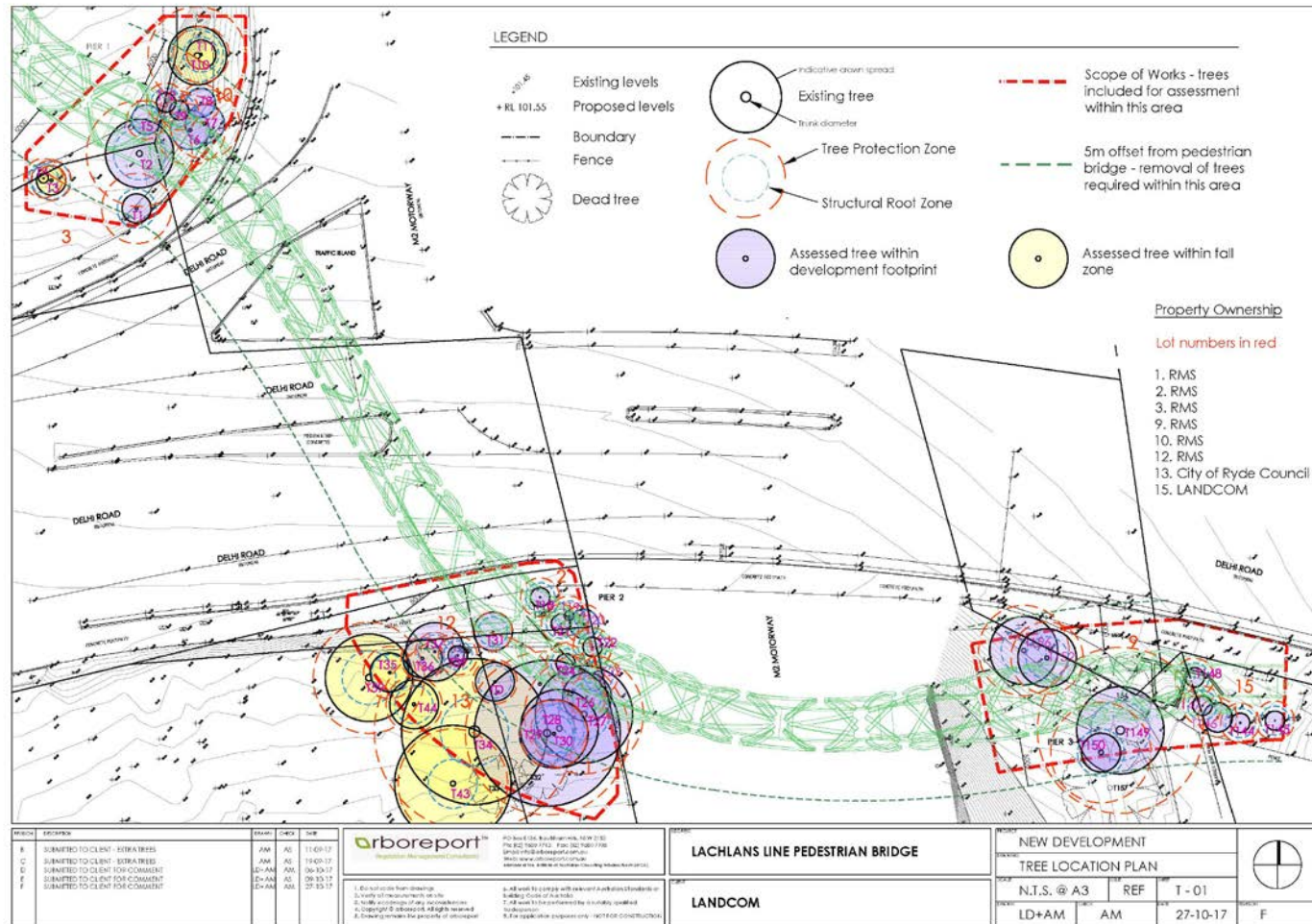
Biosis 2018, *Lachlan's Line Pedestrian Bridge: Ecologic al consistency assessment*. Prepared for Landcom. Dated 12 February 2018.

Eco Logical Australia 2014a, *North Ryde Station Precinct, M2 Site, State Significant Development, Ecological Impact Assessment*. Prepared for UrbanGrowth NSW. Dated 22 May 2014.

Eco Logical Australia 2014b, *North Ryde Station Precinct, M2 Site, State Significant Development, Ecological Impact Assessment*. Prepared for UrbanGrowth NSW. Dated 29 October 2014.

Office of Environment and Heritage 2013, *The native vegetation of the Sydney Metropolitan Area, Volume 1: Technical Report. Version 2.0.*, Office of Environment and Heritage, Department of Premier and Cabinet, Sydney, NSW

Attachment 1: Arborist Report Tree Location Plan 1 and Biosis Figure 1





Attachment 2: Character of vegetation near Pier 2 when inspection April 2018



Attachment 3: Sydney Turpentine-Ironbark Forest mapping (OEH 2013)

